

CURRICULUM VITAE
DANIEL A. BARONE
US Citizen, Selective Service Registered
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Academic Degrees

Ph.D., Geography

Rutgers University, 2016.

Dissertation title: “Determining human dominance thresholds for barrier islands along the New Jersey coast”

Committee: Briavel Holcomb, Nancy Jackson, Karl Nordstrom (Chair), David Robinson

M.A. Instructional Technology

Stockton University, 2008.

Capstone Title: “Increasing productivity: Using a blended approach for Geographic Information Systems training”

Advisor: Amy Ackerman

B.S. Marine Science

Stockton University, 2004.

Professional History

Rutgers University

1/2020 to Present – Associate Teaching Professor

- Associate Teaching Professor in the School of Environmental and Biological Sciences (SEBS) - Department of Marine & Coastal Sciences (DMCS) with a joint appointment in the Department of Geography within the School of Arts and Sciences (SAS) and the Rutgers School of Engineering's Center of Advanced Infrastructure Transportation (CAIT).
- Executive Director, Infrastructure Resilience Program at CAIT – Duties include IRP program coordination as well as developing and maintaining innovative research projects as lead or co-PI.
- Teaching duties include:
 - *DMCS* – Coastal Geomorphology – Fall Semester
 - *DMCS* - Human Interactions with the Coastal Ocean - Spring Semester
 - *Dept. of Geography* – Introduction to Geographic Information Systems – Fall Semester
 - *Dept. of Geography* - Advanced Geographic Information Systems – Spring Semester

Coastal Systems Research & Planning, LLC

2/2020 to Present - Owner

- Provide coastal management, planning and research consulting services to public and private clients domestically and abroad.
- Services include:
 - GIS-and field-based mapping and analytics for resilience-based planning and management.
 - Local and regional hazard-based risk and vulnerability analyses.
 - Episodic and/or long-term (i.e. climate change) landscape change modeling, monitoring and assessment

- Man-made and nature-based infrastructure evaluations for informed coastal management.
- Education and outreach services.

Michael Baker International
1/2020 to Present – Senior Consulting Coastal Scientist

- Provide coastal technical expertise for ongoing coastal science/engineering, maritime transportation, and resilience planning efforts.
- Assist and lead business development pursuits related to coastal science, engineering and planning.

9/2015 to 1/2020 – Senior Associate & Department Manager, Environmental and Water Resources

- Business development: duties include developing and maintaining client relationships and satisfaction.
- Project management: manage and guide project managers and technical staff; prepare scopes of work, schedules, and cost estimates for proposals; manage staff utilization; ensure quality standards and deadlines are met.
- Operations and Department management; create and monitor department budgets; provide leadership and direction by mentoring and motivating staff on issues such as performance feedback, financial management, and client relations; resolve personnel issues such as marginal performance, policy interpretations, and succession planning.
- Professional development; participate in internal and external professional development activities such as conferences, professional organizations and continuing education.

Stockton University, Galloway, N.J.

7/2014 to 8/2015 – Director of Research, Coastal Research Center (CRC)

- Supervised and provided guidance to senior staff and junior employees on handling new & existing research projects. Supervised work operations; conducted performance evaluations and made recommendations for personnel actions required within the program.
- Recruited, trained, and supervised key employees, while providing the guidance and leadership to have them successfully shoulder operational and research activity. Encouraged students to seek further education and training to supplement the existing employees and add to the scope of tasks offered at the CRC.
- Worked directly with senior staff in developing new research projects, generating cost estimates and securing new grant funding through federal, state, local & private sources.
- Worked to future research projects through coordination and collaboration with existing staff and research institutions, as well as federal, state and local governments.
- Undertook principal investigator (PI) duties for special research project awards and guided each segment of the projects through the process of advising and working with the other employees responsible for the completion of the work on the project.
- Prepared, revised, monitored, and recommend budgets with the office manager on project costs for new work and also informed office manager of costs incurred and materials and supplies needed for new projects. Supervised the maintenance of essential records & files.
- Checked and reviewed the data collection methodology, the validity of that information and the means used to process it into deliverables to clients.
- Was the major source of developing public relations materials, verbal and written presentations of completed work and research to various conferences, project meetings with clients and other avenues designed to generate additional project work by compiling, summarizing, and analyzing statistical and other data to make conclusions and recommendations.

2/2009 to 7/2014 – Chief of Geospatial Analysis, Coastal Research Center

- Worked on the collection, integration and analysis of spatial data.
- Developed geospatial methodologies in order and perform computer modeling/analyses on new and existing projects.
- Responsible for overseeing four (5) geospatial analysts to complete project work and advised senior and junior staff in other departments on geospatial analysis software and concepts.
- Provided consistent, accurate instruction to junior employees on best practices in handling new GIS mapping projects.
- Guided each segment of geospatial project work through the process of advising, assisting and supervising the other employees responsible for the completion of the work on specific projects.
- Aided in generating cost estimates for GIS-based mapping projects.
- Conducted and directed fieldwork to collect geotechnical data (piston cores, grabs, ect.) and surveying data (Leica System 500/1200 GPS, Leica Total Station, MDL Dynascan Mobile LiDAR Scanner, Leica Nova MS50 scanner, Odom Hydrotrac Single-Beam Acoustic Sounder).
- Managed all geographically collected data on the office server utilizing ArcGIS server with ArcSDE and PostgreSQL RDMS.
- Was the Major source of verbal or written presentations of completed work and research to various conferences, project meetings with clients and other avenues designed to generate additional project work.
- Attended meetings and conferences to present research and procure new projects/grants for the CRC.

9/2005 to 2/2009 – Coastal Geomatics Specialist, Coastal Research Center

- Worked on the collection, integration and analysis of spatial data.
- Conducted field work to collect sediment samples (piston cores, grabs, etc.) and elevation survey data (RTK-GPS).
- Worked with geospatial applications, including ESRI ArcView 3.x and ArcGIS 9.x.

Current Research

My research is focused on several areas related to coastal management, including understanding physical processes that affect human-altered coastal systems. I utilize geospatial technologies such as geographic information systems (GIS), remote sensing (RS), global positioning systems (GPS) and numerical models to quantify, analyze, model and understand dynamic change within marine & coastal environments local to regional scales.

Awards

Coastal Planning Graduate Research Internship, American Samoa Coastal Management Program - 2012

Dean's Award, Stockton University Graduate School, 2008

Funded Projects

“Monitoring and Evaluation of Nearshore Placement of Dredged Materials for Shoreline Restoration at Goodluck Point” NJDOT Office of Maritime Resources, \$120,000, 2020-Present (Principal Investigator).

“Predictive Shoaling Model Development, Calibration and Validation for Navigable Waterways in New Jersey.” NJDOT Office of Maritime Resources, \$200,000, 2020 - Present (Principal Investigator).

“Manual for the Beneficial Use of Processed Dredged Material.” NJDOT Office of Maritime Resources, \$150,000, 2020-Present (Co-Principal Investigator).

“Raritan/Sandy Hook Bay Coastal Resilience Planning Study.” Monmouth County, NJ Division of Planning, \$150,000, 2018-2020 (Project Manager).

“City of Newark Watershed Encroachment Assessment.” City of Newark Water Department, \$100,000 2019, (Project Manager).

“Ocean Drive Coastal Hydrodynamic Modeling Study.” South Jersey Transportation Planning Organization, \$80,000 (Project Manager).

“Stormwater Basin Assessment and Inventory – Central Region” NJDOT, \$2,500,000, 2018-2019 (Project Manager).

Monitoring Dredging Activities Using Unmanned Aerial Systems (UAS), NJDOT Office of Maritime Resources, \$240,000, 2017-2019 (Principal Investigator).

“Waterway Linear Referencing System (WLS).” NJDOT Office of Maritime Resources, \$596,000, 2014-2018 (Project Manager).

“Update of Atlantic County Land Development Standards (LDS) and Preparation of Model Resiliency Guidelines for Municipal Implementation.” Atlantic County, NJ Division of Planning, \$150,000, 2017 (Project Manager).

“New Jersey beach-dune vulnerability assessment.” NOAA Office for Coastal Management, \$705,000, 2008-2014 (Principal Investigator).

“New Jersey beach-dune vulnerability assessment.” NOAA Office for Coastal Management, \$468,464, 2006-2008 (Co-Principal Investigator).

“Academic partner coastal outreach support.” NJDEP, Bureau of Dam Safety and Flood Control, \$95,000, 2012-2015 (Principal Investigator).

“Nature Conservancy wetlands restoration.” National Fish and Wildlife Foundation, \$75,000, 2015 (Co-Principal Investigator).

“Forsythe National Wildlife Refuge mobile LiDAR survey and geomorphic analysis.” \$122,917, 2014-2016, Department of Interior-Fish and Wildlife Service (Co-Principal Investigator).

“Dredged material management system.” NJDOT, Office of Maritime Resources, \$287,000, 2008-2015 (Principal Investigator).

“Beneficial use of dredged material to restore wetlands for coastal flood mitigation: Barnegat Bay, New Jersey.” NJ Governor’s Office of Recovery and Rebuilding, \$26,000, 2013-2014 (Principal Investigator).

“New Jersey State channel maintenance capacity study.” NJDOT Office of Maritime Resources, \$130,000, 2013-2015 (Co-Principal Investigator).

List of Publications

Refereed Journal Articles

Barone, D.A., McKenna, K.K., Farrell, S.C., 2014. Hurricane Sandy: Beach-dune performance at New Jersey Beach Profile Network sites. *Shore & Beach* 82, 13–23.

Miskewitz, R.J., Barone, D., Guterl, S.J. and Uchirin, C.G., 2017. Design of a GIS-based rating protocol to assess the potential for landfill closure using dredge material in post Hurricane Sandy New Jersey. *Journal of Environmental Science and Health, Part A*, pp.1-6.

Manuscripts in Preparation

Barone, D.A., 2021. Determining human dominance thresholds for developed barrier islands. Manuscript in review.

Barone, D.A., 2021. Analysis of a continuous groin field's influence on beach-dune volume change in response to Hurricane Sandy: Long Beach Island, New Jersey. Manuscript in preparation

Presentations and Edited Symposia

Beneficial Use of Dredged Material for Coastal Resilience, CAIT Webinar Series, Piscataway, NJ, July 2020

Applications of Unmanned Aerial Systems (UAS) for maritime transportation. Presentation, ACEC New Jersey, Monroe, NJ, May 2019

Utilizing Unmanned Aerial Systems (UAS) for monitoring dredging-induced sediment plumes in Environmentally Sensitive Waters. Presentation, ASBPA National Coastal Conference, Galveston, TX, October 2018

Waterway Linear Referencing System. Presentation, ASBPA National Coastal Conference, Ft. Lauderdale, Florida, October 2017

Analysis of a continuous groin field's influence on beach-dune volume change in response to Hurricane Sandy: Long Beach Island, New Jersey. Presentation, ASBPA National Coastal Conference, Long Branch, New Jersey, October 2016

Mapping flood risk using FEMA regulatory and non-regulatory products. Presentation, MACURISA 18th GIS Conference, Atlantic City, New Jersey, October 2016

A methodology for quantifying storm-deposited sediments within navigation channels in the absence of hydrographic survey data. Presentation, Coastal Geotools Conference, Charleston, SC, April 2015.

Generating tidally-referenced shorelines using GIS, VDatum, and LiDAR. Presentation, Coastal Geotools Conference, Charleston, SC, April 2015.

Beach-dune system susceptibility assessment, New Jersey coastline. Presentation, NSBPA Northeast Beaches Conference, Galloway, NJ, September 2013.

Atlantic City boardwalk viewshed analysis, Presentation, Leica Hexagon Live International Conference, June 2013.

Beach-dune susceptibility assessment, Atlantic County, New Jersey. Poster; Symposium on Applied Geomorphology to Honor Miles O. Hayes, Columbia, SC, October 2011

New Jersey GIS-based state-wide beach-dune system susceptibility assessment: Applications and verification. Presentation; NOAA Coastal Geotools Conference, Myrtle Beach, SC, March 2011.

Regional scale beach dune susceptibility assessment & verification in Long Beach Island, NJ. Presentation; ASBPA National Conference, Charleston, SC, October 2010

Beach-dune susceptibility assessment, Brigantine Island, Atlantic County, NJ. Presentation; Congressman Frank A. LoBiondo, Mays Landing, NJ, August 2010

Dredged material management and analysis of Delaware River confined disposal facilities. Presentation; Delaware Estuary Regional Sediment Management Workgroup, Philadelphia, Pennsylvania, August 2010.

Regional-scale beach-dune susceptibility assessment and comparative analysis of beach replenishment projects relating to storm impacts; Harvey Cedars, New Jersey. Presentation, ASBPA Northeast Beaches Conference, Woods Hole, MA, September 2009.

Beach-dune susceptibility assessment: A geospatial approach to regional scale analysis. Presentation, NOAA Coastal Geotools Conference, Myrtle Beach, SC, March 2009

Ludlam Island: Coastal processes and protection. Presentation, Sea Isle City Taxpayers Associations, Sea Isle, NJ, January 2009.

Beach-dune system analysis: An application of LiDAR data. Presentation, MACURISA LiDAR Symposium, Bordentown, NJ, October 2008.

Beach-dune susceptibility assessment, pre- and post-beach fill comparison, Surf City & Harvey Cedars, New Jersey. Presentation, New Jersey Department of Environmental Protection, Bureau of Coastal Engineering, Toms River, NJ, February 2008.

Beach replenishment, information and recent studies. Presentation, Surfrider Foundation, South Jersey Chapter, Somers Point, NJ, February 2008.

Beach-dune system susceptibility assessment, northern Ocean County, New Jersey. Presentation, New Jersey Department of Environmental Protection, Bureau of Coastal Engineering, Toms River, NJ, April 2007.

Oceanfront and bayfront coastal zone management: Current activities & new developments. Presentation, U.S. Army Corps of Engineers, Philadelphia, PA, April 2007

Technical Reports

Barone, D.A., 2014, Preliminary Report: Beneficial Use of Dredged Material to Restore Wetlands for Coastal Flood Mitigation, Barnegat Bay, New Jersey: New Jersey Department of Environmental Protection, Governor's Office of Recovery and Rebuilding, Trenton, New Jersey.

Barone, D.A., Farrell, S.C., Howard, B.S., Flynn, M.J., 2013, New Jersey Dredged Hole Assessment: Bass River & Drag Island Dredged Holes: New Jersey Department of Transportation, Office of Maritime

Resources, Trenton, New Jersey.

Barone, D.A., Farrell, S.C., Howard, B.S., Gruver, M.H., McKenna, K.K., Flynn, M., Robine, C.M., Gaffney, D.A., Gorleski, E., Dalon, M., Koch, R.V., 2012, Sediment Characterization and Management of Coastal Waterways, Delaware River & Bay, New Jersey (version 1.0): New Jersey Department of Transportation, Office of Maritime Resources, Trenton, New Jersey, 1 CD-ROM disk

Barone, D.A., Koch, R.V., McKenna, K.K., Farrell, S.C., Gruver, M.H., Howard, B.S., 2010, Beach-dune susceptibility assessment, Absecon Island, Atlantic County, New Jersey (version 1.0): National Oceanic and Atmospheric Administration, Coastal Services Center, Charleston, South Carolina, 1 CD-ROM disk.

Koch, R.V., Barone, D.A., Farrell, S.C., Gruver, M.H., Howard, B.S., 2010, Beach-dune susceptibility assessment, Brigantine Island, Atlantic County, New Jersey (version 1.0): National Oceanic and Atmospheric Administration, Coastal Services Center, Charleston, South Carolina, 1 CD-ROM disk.

Barone, D.A., Koch, R.V., Robine, C.M., Gruver, M.H., Farrell, S.C., 2010, Sediment Characterization and Distribution of Artificial Island Confined Disposal Facility (version 1.0): US Army Corps of Engineers, Philadelphia District, Philadelphia, Pennsylvania, 1 CD-ROM disk.

Farrell, S.C., Barone, D.A., McKenna, K.K., Gaffney, D.A., Gorleski, E., Robine, C.M., Koch, R.V., Gruver, M.H., Dalon, M., 2009, Sediment Characterization and Management of Coastal Waterways, Ocean County, New Jersey (version 1.0): New Jersey Department of Transportation, Office of Maritime Resources, Trenton, New Jersey, 1 CD-ROM disk

Farrell, S.C., Barone, D.A., McKenna, K.K., Gaffney, D.A., Gorleski, E., Robine, C.M., Koch, R.V., Gruver, M.H., Dalon, M., 2009, Sediment Characterization and Management of Coastal Waterways, Monmouth County, New Jersey (version 1.0): New Jersey Department of Transportation, Office of Maritime Resources, Trenton, New Jersey, 1 CD-ROM disk

Barone, D.A., Farrell, S.C., Howard, B.S., Gruver, M.H., McKenna, K.K., Flynn, M., Robine, C.M., Gaffney, D.A., Gorleski, E., Dalon, M., Koch, R.V., 2012, Sediment Characterization and Management of Coastal Waterways, Raritan Bay, New Jersey (version 1.0): New Jersey Department of Transportation, Office of Maritime Resources, Trenton, New Jersey, 1 CD-ROM disk

Barone, D.A., Farrell, S.C., Koch, R.V., Howard, B.S., Gruver, M.H., 2009, Beach-dune system susceptibility assessment, Long Beach Island, Ocean County, New Jersey (version 1.0): National Oceanic and Atmospheric Administration, Coastal Services Center, Charleston, South Carolina, 1 CD-ROM disk.

Farrell, S.C., Barone, D.A., McKenna, K.K., Gaffney, D.A., Gorleski, E., Robine, C.M., Koch, R.V., 2009, Sediment Characterization and Management of Coastal Waterways, Cape May County, New Jersey (version 1.0): New Jersey Department of Transportation, Office of Maritime Resources, Trenton, New Jersey, 1 CD-ROM disk

Farrell, S.C., Barone, D.A., 2008, Summary of 20-years of Shoreline Monitoring Between Maryland Avenue, Point Pleasant Beach, Bay Head, Mantoloking, Brick Township, to 1st Avenue in Normandy Beach, Ocean County, New Jersey & and Evaluation of Shoreline Change Between 1920, 1994, and 2005: Borough of Mantoloking, New Jersey.

Farrell, S.C., Barone, D.A., McKenna, K.K., Gaffney, D.A., Gorleski, E., Robine, C.M., Koch, R.V., 2008, Sediment Characterization and Management of Coastal Waterways, Atlantic County, New Jersey (version 1.0): New Jersey Department of Transportation, Office of Maritime Resources, Trenton, New Jersey, 1 CD-ROM disk.

Mihalasky, M.J., Farrell, S.C., Barone, D.A., and Koch, R.V., 2007, Beach-dune system susceptibility assessment, northern Ocean County, New Jersey (version 1.0): New Jersey Department of Environmental Protection, Office of Engineering and Construction, Bureau of Coastal Engineering, Toms River, New Jersey, 1 CD-ROM disk.

Courses Taught

“Advanced Geographic Information Systems” Undergraduate Environmental Science Course, Lead Instructor, Stockton University, spring 2015- present.

“Introduction to Geographic Information Systems” Undergraduate Dept. of Geography Course, Lead Instructor, Rutgers University-New Brunswick, fall 2020-present.

“Advanced Geographic Information Systems” Undergraduate Dept. of Geography Course, Lead Instructor, Rutgers University-New Brunswick, spring 2020-present.

“Coastal Geomorphology” Undergraduate Dept. of Geography Course, Lead Instructor, Rutgers University-New Brunswick, anticipated fall 2021.

Guest Lectures

“Transdisciplinary Perspectives on Coastal Climate Risk & Resilience” Guest lecturer - Natural and Nature-Based Features for Coastal Resilience (1 day), Rutgers University-New Brunswick, December 2020.

“Soil Stabilization Seminar” Guest lecturer - Coastal Protection using Natural and Nature-Based Features (1 day), Rutgers University-New Brunswick, November 2020.

“Seminar in Environmental Science” Undergraduate Environmental Science Seminar Course, Guest lecturer for environmental career paths section (1 day), Richard Stockton College of NJ – November 2016.

“Seminar in Environmental Science” Undergraduate Environmental Science Course, Guest lecturer for coastal science applications using GIS Section (1 day), Richard Stockton College of NJ – February 2014.

“Earth Systems” Undergraduate Geography Course, Guest lecturer for coastal processes Section (1 day), Rutgers University-New Brunswick, December 2011.

Graduate Advising

Committee Member on Stockton University PSM capstone projects:

Robert Koch
Michael Flynn
Steven Howard
Brad Smith

Professional and Public Service

Current Professional Affiliations

President - Northeast Shore & Beach Preservation Association (Northeast ASBPA Chapter)
Member, Board of Directors - American Shore & Beach Preservation Association (ASBPA)
NJ Association of State Floodplain Managers (NJAFM)
New Jersey Geospatial Forum

Previous Activities on Committees and Boards

NJ State Hazard Mitigation Plan (Mitigation Team Member/Subject Matter Expert-Coastal Erosion)
Cape May County Hazard Mitigation Plan (Steering Committee Member)

Reviewer for refereed journals

Geomorphology

Workshops

“Beneficial Use of Dredged Material for Coastal Resilience,” Moderator and Workshop Development Committee for Northeast Shore & Beach Preservation Association (NSBPA), Monmouth University, Long Branch, NJ, (Scheduled September 2021).

“New Jersey Floodplain Management Training for NJDEP Office of Flooding and Dam Safety,” Various Counties, NJ, 2018-2019 (Instructor).

“Your Role in the NJ/NY Coastal Flood Map Revisions” Workshop/Webinar Coordinator/Presenter, FEMA Cooperating Technical Academic Partner Training, Jacques Cousteau National Estuarine Research Reserve-Coastal Training Center, Tuckerton, NJ, January 2013 (Lead Instructor).

“Reducing Coastal Flood Risk: Making Use of Updated FIRMs” Workshop/Webinar Coordinator/Presenter, FEMA Cooperating Technical Academic Partner Training, Jacques Cousteau National Estuarine Research Reserve-Coastal Training Center, Tuckerton, NJ, December 2013 (Lead Instructor).

Television and Radio Interviews

“Life after Sandy.” Television Interview, The Weather Channel, November 25, 2012.

“Dredge spoils will provide dunes so turtles won’t cross road.” Interview, Press of Atlantic City, December 17, 2008.

“Coastal flooding study in Port Republic gets funding boost.” Interview, Press of Atlantic City, August 16, 2008.

“Which parts of Jersey will be smacked hardest by storm?” Interview, The Bergen Record, August 14, 2008.

“Richard Stockton College receives Congressional Appropriations for State-wide Beach Assessment.” Interview (Radio), New Jersey 101.5, August 14, 2008.

Professional Certifications

Certified Geographic Information Systems Professional (GISP)

Certified Floodplain Manager (CFM)
Certified HAZUS-MH Practitioner
NAUI Open Water Scuba Certified
NJ Boater Safety Certified